

Coontinuing Education

What Teens Want to Know: Sexual Health Questions Submitted to a Teen Web Site

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ABSTRACT

In 1999 Planned Parenthood® Federation of America (PPFA) launched teenwire.comsm, a Web site for young people. This study was designed to determine teens' reproductive health information needs. Selected for analysis were 1,219 submissions to the Ask the Experts section of the Web site. Each submission was independently coded by three of the authors. Findings suggest that the Internet is a useful way to provide teens with access to sexuality information, and that it can reach a wide audience of teens. Of possible concern in this study were the findings that teens asked very few questions about sexually transmitted infections, relatively few males submitted questions to the site, and teens were asking about sex behaviors at significantly younger ages than they were asking about services, pregnancy, or contraception/protection. A combination of educational resources, including Web sites, are necessary to provide teens with the vital information they need to be sexually healthy.

In 1999 Planned Parenthood® Federation of America (PPFA®) launched teenwire.comsm, a Web site designed to provide young people with a safe and private way to receive straightforward, accurate information about sexuality and sexual health. The need for the Web site is clear; research shows that teens' knowledge of reproductive physiology, contraception, and sexually transmitted infections (STIs) is lacking (Carrera, Kaye, Philliber, & West, 2000; Crosby & Yarber, 2001; Kirby, Barth, Leland, & Fetro, 1991; Levy et al., 1995), and national statistics of teenage intercourse, contraceptive use, pregnancy, and STI rates show that intervening with teens is critical (Alan Guttmacher Institute, 1999; Centers for Disease Control, 2000; Kaiser Family Foundation, 1998; National Center for Health Statistics, 2000).

The Internet provides an excellent opportunity to reach young people with sexuality and sexual health information; research shows that teens are increasingly using the Internet to find health information. One study of young people found that the Internet ranks third among sources for information on sexuality (Borzekowski & Rickert, 2001). Another study found that 68% of 15-to-24-year-olds have gotten health information online, with 44% of those young people accessing information about pregnancy, birth control, HIV/AIDS, or other STIs (Rideout, 2001).

teenwire.com, which gets approximately 350,000 visits per month, uses various formats to reach teens, including articles, stories, and question and answer sections. The purpose of this study was to determine what content would be most useful to teens who use the Web site. Research has shown that the most effective educational materials are those that are tailored to an individual's or group's level of readiness to learn or to change their behavior (Skinner, Campbell, Rimer, Curry, & Prochaska, 1999). For example, information about reproductive anatomy may not be helpful to teens who need advice on talking with their parents about sex, just as information on refusal

skills may not be helpful for teens who have decided to be sexually active and need information on protecting their health.

Three previous studies of young peoples' questions about sexuality were identified in the scientific literature of the past 15 years. The most recently published study examined approximately 200 questions submitted to a Web site designed for Campaign for Our Children, but only 46 of the questions were identified has having been written by teens (Flowers-Coulson, Kushner, & Bankowski, 2000). The authors did not offer a breakdown of question content by age group, but the questions overall focused predominantly on conception and fertility. A 1992 study compiled some 500 questions that children and teens frequently asked about sex, bodies, and relationships (Younger, 1992). The author, a sex

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educator, noted that teens in the 1990s were asking the same questions asked by teens in 1967, only they were asking more "advanced" questions at younger ages. In 1988, Boston Children's Hospital published a book of teens' common questions about sex (Boston Children's Hospital, 1988). Researchers interviewed students, teachers, and sex educators in middle schools and high schools. The study found that common topics included puberty; male and female sexuality; contraception; sexually transmitted infections; sexual identity; sexual violence; and abortion.

Although the results of these studies are helpful, a current, large-scale, and systematic study is needed to truly understand teens' needs in terms of information about sexuality. The current study was conducted to answer the question: "What do teens today want to know about sexuality?" Questions submitted by teens to the Ask the Experts section of the Web site were examined to develop a clearer idea about what content will be most useful to the teens who use the Web site. It is anticipated that the findings of the study will also be useful to youth-serving organizations, educators, health care professionals, parents, and policy makers.

METHOD

Selection of Questions

Selected for analysis were 1,219 submissions to the Ask the Experts section of the Web site. Approximately 100 submissions were selected from each month for the period of September 1999 to August 2000 (8% of the submissions received during that period). Because the Web site's archiving system was not designed for research, and logistical issues made it impossible to select a true random sample, a systematic sample was selected by choosing approximately every 13th submission for analysis.

Coding

Preliminary coding categories were determined by examining 240 of the submissions (20 submissions systematically selected from each month). The coding scheme was then developed and modified

through several practice coding sessions involving all four authors. Once the coding scheme was finalized, each of the 1,219 submissions was independently coded by three of the authors. The first and second authors each coded all 1,219 submissions, and the third and fourth authors each coded approximately 600 submissions. When initial codes for a particular submission were not consistent across coders, the submission was discussed until all four authors reached agreement.

In some cases, a submission to the Web site was coded as two (n=77) or three (n=9)separate questions. Questions were coded this way only when they appeared to be completely separate from each other and no question could be determined to be primary. For example, one submission included the following separate questions: "I was wondering what the symptoms of Clamidia were? My boyfriend just told me that his ex-girlfriend had it and I wanted to know if I got it. I was also wondering if there was a planned parenthood in Fargo, ND? My friends thought there was but we can't find the number." All quotes are reprinted in their original format. Mistakes in spelling and grammar were not corrected. Questions are answered on an individual basis by trained sexual health experts. Answers are sent to the teenwire.com mailbox of the teen who submitted the question, which can only be accessed by the teen using a login name and password. Login names and passwords are created by the user and have no connection to an actual e-mail address.

The final coding scheme consisted of seven codes: Body, Pregnancy, Relation-ships/Emotions/Identity, Services, Contraception/Protection, Sex Behavior, and Sexually Transmitted Infections. Each question received one primary code and most received multiple secondary codes. The primary code represented what was believed to be most central to the question—the major concern. Secondary codes were assigned to account for additional information provided by the teen or secondary questions leading up to the main question. For example, the question, "I had sex and

the condom broke, could I be pregnant?" would receive a primary code of Pregnancy, because the main concern is whether the teen could be pregnant. This question would also receive a secondary code of Contraception/Protection, because it mentions condom failure, and a secondary code of Sex Behavior, because it mentions sexual intercourse. The number of secondary codes a question could receive was not limited. Twenty-four submissions did not fit into the coding categories and were excluded from the analysis.

Collection of Demographic Information

Teens were prompted to indicate their date of birth and geographic location when registering to submit questions to the Web site. Although the Web site intermittently receives questions from adults, for the purpose of this study questions from those over 21 years of age were excluded from the analysis.

Gender was determined in one of two ways. Sometimes teens explicitly stated their gender as part of the question. For example: "Hi, I'm female and I'm wondering how my sex is supposed to go about masturbation? I mean its easy enough for guys but how do girls do it without seriously hurting ourselves?" Other times gender could be inferred from the content of the question. For example, questions such as, "Am I pregnant?" are clearly written by females, while a question such as, "I ejaculated inside my girlfriend and now I think she may be pregnant, what should I do?" is clearly written by a male.

In many cases we were able to infer the gender of the teen only by making some assumptions. For example, we suspect that "Is it safe to have sex while you're on your period?" was written by a female. However, because the question is not written in the first person (i.e., "Is it safe to have sex while I'm on my period?"), we cannot be sure whether this question is about the teen's own situation or whether the question is more general. For such questions we coded gender as Probably Female or Probably Male. We sometimes used the teens' screen names as a clue to their gender (e.g., "flyguy"



or "surferchick"). However, screen names were used only to assign teens to the Probably Female or Probably Male categories, never to the Female or Male categories.

For some other questions it was impossible to determine the gender of the teen. For example: "If your mouth makes contact with a male or females private part can you get an STD? Or just licking someone at all?" There are no clues in this question as to the teen's gender, and thus, we used a fifth gender category: Gender Unknown. We were careful to avoid a heterosexist bias when inferring gender. For instance, references to a "boyfriend" or "girlfriend" were not used as clues to a teen's gender. Unless there was other identifying information, such questions were coded as Gender Unknown. For example, "When you are French-kissing a guy, is there a wrong and right way to do it?" (gender coded as Gender Unknown).

RESULTS

The average age of teens submitting questions to Ask the Experts was 16.2 (*SD*=1.8). Females asked 50% of the questions, and another 16.3% were asked by those identified as Probably Female. Males asked 6.6% of the questions, and another 2% were asked by those identified as Probably Male. We were unable to identify the gender of the teen for 25.2% of the questions. Teens reported geographic locations that included 48 different states in the United States, and other countries in Asia, Africa, Europe, and Central America.

Primary Codes

The most common primary code was Body (24% of questions). Most of these questions asked about pain or bleeding during/after sex (n=49), or what a particular symptom means or why it occurs (n=37). For example, one teen asked, "When a girl has sex for the first time does she bleed a lot and does it hurt?" (age 17). Other questions focused on body hair and breast or penis size, and how to change them (n=32), or about what is "normal" or what occurs during puberty (n=27). For example, "I feel uncomfortable around the other boys in the

locker room. They all seem to have more to offer than I do? What can I do to make myself grow?" (age 17).

The second most common primary code was Pregnancy (23%). Most of these questions asked whether a teen might be or get pregnant if one or more of the following events occurred: her period was late; she had unprotected sex; the condom broke; she had sex a certain number of days before/after her period; her partner did or did not pull out before ejaculating; or she was experiencing some other "symptom" (n=205). For example, one teen asked, "You can't get pregnant from oral sex, can you?" (age 18), and another asked, "I had sex and he didn't wear a condom but pulled out before he ejaculated... I'm on depo-provera. Could I be pregnant? If so what should I do?" (age 16). Other common questions regarding pregnancy asked whether it is still possible for a woman to be pregnant if she has her period (n=30), what are the symptoms of pregnancy or how soon they show (n=22), and how accurate are pregnancy tests or how soon can they be taken (n=21).

Relationships/Emotions/Identity was the next most common primary code (16%). The majority of these questions asked about gaining the attention/affection of someone, talking to a partner, or moving a relationship forward (n=39). One teen asked, "I am 14 years old and I go with a guy only 1 year older than me. I am so afraid that he wants sex from me! That's all it seems! I AM NOT READY YET! I don't know what to do when the time comes and he wants it! I am afraid he is gonna dump me! Help" (age 14). Others were concerned with how to understand their own feelings or someone else's (n=30). For example, "How can you tell when a guy likes you?" (age 17), and, "How would I know if I'm in love?" (age 16). Some teens asked whether they should have sex or how to know if they were ready (n=28). Others asked how to talk to their parents about sexuality or contraception or how to earn their parents' trust (n=26). For example, "I am seriously thinking about going on birth control, but I don't know how to tell my mom that I am. Could

you please suggest a way for me to tell her. (She is very hostile when it comes to sex.)" (age 17).

Twelve percent of the questions focused primarily on reproductive health Services such as pregnancy/STI testing, gynecological exams, contraceptive prescriptions, and abortion. Most of these questions asked whether parental consent is needed to obtain services and whether services are confidential (n=51). For example, one teen asked, "I was just wondering, is there any way that I could get on the pill without my parents knowing? And if so, how would I do that?" (age 15), wheras another asked, "If I go to the gyno, can he tell my mom I am having sex without my permission?" (age 17). Others asked about where to obtain services or what kinds of services are available (n=40), how much services cost without insurance or how to get services without having it show up on insurance (n=31), or what happens during services (n=16). For example, "What exactly do they do when you have a pregnancy test in a clinic?... do they have to touch you down there?" (age 14).

Contraception/Protection questions comprised 12% of the sample. Most of these questions asked how contraception works or how to use it correctly (n=54). For example, "Well I have just recently got on the pill, and I was wondering how safe or risky it is if my partner was to ejaculate inside me being on the pill and all?" (age 18), and, "Can condoms go old? Like, if it sits around for a while in a shoebox, or something can it go bad? How long can you keep them before they shouldn't be used? Thank you" (age 15). Other teens wondered how contraception affects the body or about potential side effects (n=29), what kinds of contraception are available and which kind to use (n=23), and how effective contraception is (n=22).

Eight percent of the questions received a primary code of Sex Behavior. Most of these questions asked whether it is okay, normal, or safe to engage in a particular sexual behavior (n=37). For example, "Is masturbation OK for males?" (age 17).



Other teens asked how to perform a particular sexual behavior (n=34), or what a particular sexual term means (n=14). For example, "What exactly is the difference between clitoral and vaginal stimulation? Or what are they?" (age 15). Teens also asked what constitutes sex or losing one's virginity (n=9).

Sexually Transmitted Infections was the least frequent primary code (5%). Most of these questions asked whether it is possible to contract an STI from a particular sexual behavior or inquired about how STIs are spread (n=29). For example, one teen asked, "Is it possible to receive an STD from a partner in oral sex if neither one of us has ever had any type of sexual contact?" (age 16). Others asked whether a particular symptom is indicative of an STI or how one can tell if he/she has an STI (n=21), or what effects an STI will have (n=5). For example, "My ex-boyfriend thinks he has an STD and that I gave it to him. He says he has the symptoms for gonorrhea and chlamydia. I don't have symptoms though. What should I do?" (age 17).

Combining Primary and Secondary Codes

Additional insight into teens' informational needs can be gained by combining the primary and secondary codes (Table 1). When both primary and secondary codes are considered, Sex Behavior becomes the most common code. Fifty-nine percent of the questions included some content about sex behavior, but the main focus of these questions was usually some other issue, such as the possibility of a resulting pregnancy, or the ways in which sex can affect the body.

Contraception/Protection was also a more common secondary than primary code, because many questions asking about contraception were focused primarily on concerns about pregnancy. In such questions teens often indicated whether they were using contraception, or described a contraception failure that led to their concern about pregnancy.

Body was the most common primary code and was equally common as a secondary code. Teens often asked about or de-

Table 1. Percentage of Questions in Each Coding Category When Considering Primary, Secondary, and Combined Codes

Coding Categories	Primary Cod	le S	Secondary Code	Combined	Code
Sex Behavior	8	+	51 :	= 59	
Body	24	+	28 :	= 52	
Contraception/Protection	12	+	24 :	= 36	
Pregnancy	23	+	11 :	= 35	
Relationships/Emotions/Identit	ty 16	+	3 :	= 19	
Services	12	+	3 :	= 15	
Sexually Transmitted Infections	5	+	3 :	= 8	

scribed their physical experiences or symptoms as background information to questions that focused primarily on other issues (such as sex behavior or STIs).

Pregnancy was less likely to be a secondary code than a primary code. Teens asking questions about pregnancy were usually very clear that it was their primary concern, although such questions often received secondary codes for references to issues such as sex behavior and contraception/protection. Questions that did receive a secondary code of Pregnancy were often primarily focused on reproductive health services or on relationships and emotions.

Relationships/Emotions/Identity, Services, and Sexually Transmitted Infections were not common as secondary codes (3% for each category). When teens asked questions about these issues, they tended to be the primary concern.

Abortion was not identified as a major theme in the process of determining coding categories. However, because of the role of PPFA as an abortion provider and an advocate of women's right to choose whether to continue or terminate a pregnancy, we tracked the number of questions pertaining to abortion. Only 4% of the questions mentioned abortion.

Age Differences

The average age of teens asking questions varied by the content of their questions (Figure 1). Most notably, there were statistically significant differences (p<.05) between the average age of teens who asked about Relationship/Identity/Emotions (M=15.57; SD=1.88) or Sex Behavior

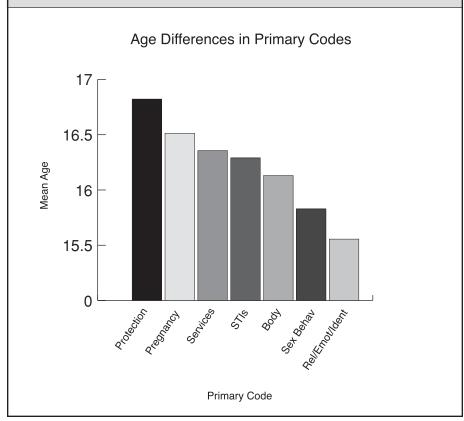
(M=15.84; SD=1.77) and teens who asked about Services (M=16.34; SD=1.61), Pregnancy (M=16.51; SD=1.63), or Contraception/Protection (M=16.81; SD=1.71). To submit a question teens must register by entering their birth year and state of residence. If a teen does not answer these questions the system is designed to enter default information, in this case, a birth year of 1982 and the state of Alabama. Because of this system, default responses would have skewed the mean age of the teens. Therefore, for the analyses examining age differences, we excluded all participants for whom Alabama was the state indicated (N=102). Although this may mean that we excluded some participants who were actually from Alabama, this was our best alternative for ensuring that the age variable was not biased by default responses.

DISCUSSION

The Internet provides a unique opportunity to reach teens with accurate and confidential sexual health information. Nearly 17 million American youth use the Internet (Lenhart, Rainie, & Lewis, 2001), presenting Web sites with a large potential audience. This analysis has provided some valuable insights into the sexual health information needs of adolescents and has implications that are important for sexuality education programming in general. Several specific findings merit further discussion: (1) concerns about STIs were rarely mentioned; (2) males comprised a small percentage of the sample; and (3) questions concerning sex behavior



Figure 1. Teens asking about Sex Behavior and Relationships/Identity/ Emotions tended to be younger than those asking about Services, Pregnancy, and Contraception/Protection.



occurred at significantly earlier ages than questions about services, pregnancy, or contraception/protection.

Teens Show Little Concern About STIs

The analysis showed that teens submitting questions rarely mentioned STIs—even when primary and secondary codes are combined, STIs were mentioned in only 8% of the questions. One explanation for this finding is that teens may think of Planned Parenthood as an organization that focuses on pregnancy and contraception and may be going elsewhere to get information about STIs. It is also possible that teens have few questions about STIs because they already have sufficient knowledge about the subject. Currently, 39 states require schools to provide STI, HIV/AIDS education (Kaiser Family Foundation, 2002). Nevertheless, a recent study measuring teens' reproductive health knowledge suggests that teens do not have this crucial

information; on average, teen participants incorrectly answered nearly 50% of questions about STIs (Carrera et al., 2000).

An alternative explanation for the absence of questions about STIs is that teens do not perceive themselves to be at risk. One study found that 68% of sexually active 15-to-17-year-olds do not consider themselves to be at risk for STIs (Alan Guttmacher Institute, 1994). Such lack of concern is also apparent in interactions with health care providers—most sexually active teens have never discussed STIs with a provider (Kaiser Family Foundation, MTV, & Teen People, 1999).

The high incidence of STIs among teens and the possibility that many teens may not feel they are at risk suggests that teens need even more education on the subject. Since the data were collected, additional articles and interactive features (e.g., games and quizzes) on STIs have been added to

teenwire.com. In addition, our Web site could make this issue more personal to the site's visitors by profiling teens who have STIs but did not believe they were at risk.

What About the Guys?

The analysis also found that only 8.6% of the teens submitting questions were identified as Male or Probably Male. It is possible that young men think of Planned Parenthood as a women's organization and are more likely to search for health information on other Web sites. Or it is possible that they are visiting the Web site, but are not submitting questions to Ask the Experts. But prior research has shown that teenage males are less likely to look for health-related information online in general. One study found that 26% of 15-to-17-year-old males sought such information online compared to 40% of females the same age (Lenhart et al., 2001). Another study of 15-to-17-yearolds found that 33% of males online have looked for sexual health topics compared to half of females online (Rideout, 2001).

One might propose that males may already have the knowledge they need, or perhaps they are simply getting their information from other, offline resources, but research suggests this may not be the case. In one study teenage males scored significantly lower than females on reproductive health knowledge (Carerra et al., 2000). Another study found that more males than females had misconceptions about the correct way to use a condom (Crosby & Yarber, 2001). Teenage males are also less likely than females to have discussed reproductive health issues with a health care provider (Kaiser Family Foundation, 2001). Considering that more than half of young men aged 15-19 have had vaginal intercourse (Gates & Sonenstein, 2000), sexuality educators and health care providers need to find ways to reach out to young men more effectively and make sure that they have the information they need to make informed and responsible choices about their sexual health. teenwire.com has since increased its content on topics relevant to young men, such as addressing their specific body issues and needs within a relationship.



Age Differences in Question Content

Another finding showed that, on average, teens asking questions about sex behavior were younger than teens asking questions about issues such as reproductive health services, pregnancy, and contraception/protection. This finding may be of concern if it is interpreted to mean that teens are beginning to engage in sexual behavior before they are aware of or concerned about pregnancy, contraception/protection, and services. We cannot say whether these teens are actually engaging in the sex behaviors they are asking about, but this finding coincides with adolescent stages of development (Haffner, 1995). In middle adolescence (ages 13-16 for girls and ages 14-17 for boys), many teens begin to experiment sexually and many have sexual intercourse for the first time. It is often not until late adolescence (young women aged 16 and older and young men aged 17 and older) that most teens are able to think abstractly and focus on the potential consequences of their actions. In line with this theory, many teens do not begin to realize the consequences of sexual activity until after they have started experimenting. Indeed, research shows that younger ages at first intercourse are related to lower rates of condom use (Santelli et al., 1997). According to the 1995 National Survey of Family Growth, 49% of teenage women who first had intercourse at under 16 years of age did not use a contraceptive method compared to 39% of 17-year-olds (Abma, Chandra, Mosher, Peterson, & Piccinino, 1997). Together these findings suggest that it is important to reach teens at earlier ages.

Other Findings

In addition to the primary findings, this study provides rich information about teens' thoughts, beliefs, and concerns. Many teens expressed fear about possible pregnancy and these fears were realistic for some—there were numerous instances of unprotected intercourse or contraceptive failure mentioned by teens. However, other teens expressed fears about pregnancy that seemed unfounded. For example, several teens were worried about pregnancy even

though they continued to menstruate regularly and/or had received negative results on one or more pregnancy tests. The fears of many teens, unfounded or not, were contrasted by the unjustified confidence expressed by other teens. The questions that some teens submitted suggested they had misconceptions or partial information about biological mechanisms such as the fertility cycle and the physical properties of semen and sperm.

Fears of possible pregnancy and the less common concerns about STIs led to questions about access to confidential health care services. Many teens did not know where they could go for help or had fears that their parents would find out. This finding echoes other research, which shows that 28% of 7th-to-12th-grade students do not know that free or low-cost birth control services are available for people under the age of 18 (Hoff, Greene, McIntosh, Rawlings, & D'Amico, 2000).

It is interesting to note that teens are also seeking help from Planned Parenthood in negotiating relationships with partners, parents, and friends. Although sexuality education and reproductive health services often primarily focus on the physical aspects of sexuality, teens are asking about the more emotional or relational aspects. Integrating the mind and body aspects of sexuality in discussions with teens is likely to more completely meet their needs.

Although teenwire.com already provides a great deal of information on most of the issues teens asked about, the teens submitting questions seemed to believe that their circumstances were different from others and wanted individualized responses to their questions. Providing generalized information about sexuality is important to reach a broad audience. However, if we hope to have a more profound impact on teens, this generalized information needs to be supplemented by individualized attention from parents, teachers, health care providers, or resources such as teenwire.com. Providing such information via the Internet may be particularly important for teens who do not have convenient access to health centers (e.g., in rural areas).

Limitations

The study has some limitations that should be noted. Most of these limitations stem from the fact that the Ask the Experts archiving system was not designed for research. Specifically, the archiving system did not allow for a true random sample. In addition, it was not possible to be 100% confident about the age and gender of all participants; therefore, we were unable to closely examine gender differences.

Another limitation of the study is that the sample was limited to those who had access to the Internet, which is not representative of the population at large. Certain ethnic and socioeconomic groups are less likely to have access to the Internet, limiting the generalizability of the results (U.S. Department of Commerce, 2002). However, although such differences do exist, widespread Internet access and use are increasingly crossing ethnic and socioeconomic lines, particularly among young people. Ninety percent of all U.S. teens and young adults have gone online, and almost half of them use the Internet daily. Three of four now have access to the Internet at home (Rideout, 2001). Nevertheless, those who do have access to the Internet may have limited access to health information sites if Internet filtering software is used. Depending on the blocking software setting, sexual health Web sites may be blocked.

A final limitation is that reliability statistics for the coding process cannot be reported. The basis for the process we used to develop and code the submissions is that the eventual agreement of four individuals sufficiently offsets the subjective nature of the process. We did not track how often codes were not initially consistent across coders because agreement of all four individuals was ultimately reached through discussion about each submission.

CONCLUSION

This study, along with high teen STI and pregnancy rates, shows that young people need access to comprehensive sexual health information. It also demonstrates the need



for Web sites where teens can have their questions answered individually and confidentially. A recent survey showed that 4 of 10 young people who have looked for health information online have changed their behavior because of that information (Rideout, 2001). Teens need information on how to protect themselves and access services before they begin engaging in risky sexual behavior. Providing abstinence-only education that neglects this crucial information is not sufficient for today's teens. Moreover, educators need to reach out to young men, in particular, and engage them in ways that will inform them about their bodies and how to stay healthy personally and in sexual relationships. Teens need information on STIs, contraception, the fertility cycle, negotiating relationships, and how to access confidential reproductive health services. A combination of parental involvement; comprehensive, age-appropriate, sexuality education; accessible and confidential health care services; and resources such as sexual health Web sites are necessary to provide teens with the vital information they need to be sexually healthy.

ACKNOWLEDGMENTS

Portions of these data were presented at the annual meetings of the American Association of Sex Educators, Counselors and Therapists (2001) and the Society for the Scientific Study of Sexuality (2001). The authors would like to thank Michael McGee, Jennifer Johnsen, Shiri Ourian, Jim Lubin, and Jon Knowles for feedback on the manuscript.

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